

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

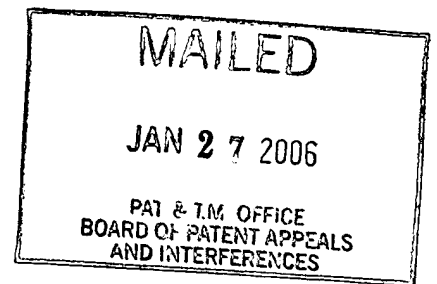
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHANN ENGELHARDT
and HEINRICH ULRICH

Appeal No. 2006-0084
Application 09/600,208

ON BRIEF



Before HAIRSTON, JERRY SMITH, and LEVY, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 17, 22, 23, 25, 28, 29 and 32-39. Pending claims 18, 26, 27 and 31 stand withdrawn from consideration as the result of a restriction requirement. Claims 19-21, 24 and 30 have been cancelled.

The disclosed invention pertains to an optical arrangement in an illumination beam path of a confocal laser microscope. More particularly, the invention relates to an apparatus for modifying the illumination diameter of the illumination beam path to match an entry pupil of a selected one of a plurality of objectives.

Representative claim 17 is reproduced as follows:

17. An optical arrangement in an illumination beam path of a confocal laser microscope comprising:

a point-like light source operatively arranged to emit an illumination beam along said illumination beam path; and,

an illumination optical system arranged in said illumination beam path for modifying an illumination diameter of said illumination beam of said microscope, wherein said illumination optical system is a zoom optical system which operates steplessly, wherein said microscope includes a plurality of predefined objectives selectively positionable in said illumination beam path, and said illumination optical system is operatively arranged to modify said illumination diameter to match an entry pupil of a selected one of said plurality of objectives.

The examiner relies on the following references:

Kato	4,530,578	July 23, 1985
Dabbs et al. (Dabbs)	5,054,926	Oct. 08, 1991
Takagi et al. (Takagi)	5,140,458	Aug. 18, 1992
Yamamoto	5,184,012	Feb 02, 1993
Dreessen et al. (Dreessen)	5,404,238	Apr. 04, 1995
Kain	5,672,880	Sep. 30, 1997
Hara et al. (Hara)	JP 05-107037	Apr. 27, 1993

The following rejections are on appeal before us:

1. Claims 17, 25, 28, 32, 33 and 39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto in view of Hara.

2. Claims 22 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto in view of Hara and further in view of Takagi.

3. Claim 29 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto in view of Hara and with or without Dabbs.

4. Claims 34-36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto in view of Hara and further in view of Kato.

5. Claim 37 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto in view of Hara and Kato and with or without Kain.

6. Claim 38 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto in view of Hara and Dreessen.

Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in the claims on appeal. Accordingly, we affirm.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed

invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose

not to make in the brief have not been considered and are deemed to be waived [see 37 CFR § 41.37(c)(1)(vii)(2004)].

We consider first the rejection of claims 17, 25, 28, 32, 33 and 39 based on Yamamoto and Hara. The examiner essentially finds that Yamamoto teaches the claimed invention except for the light source being a point-like light source. Since Yamamoto teaches a laser as the light source, and since Hara teaches that a laser can be a point-like light source, the examiner finds that it would have been obvious to the artisan to use a laser in the form of a point-like light source as suggested by Hara for the laser of Yamamoto [answer, pages 3-5].

With respect to independent claim 17, appellants argue that Yamamoto does not teach or suggest the use of a point-like light source. Appellants also argue that there is no suggestion to use the point-like light source of Hara in a confocal laser microscope as claimed. Thus, appellants argue that there is no motivation to make the combination proposed by the examiner. Appellants also argue that Hara teaches away from the claimed invention because Hara overilluminates the objective which the claimed invention is trying to avoid. Appellants assert that the examiner is using impermissible hindsight to reconstruct the

claimed invention. Finally, appellants argue that the criticality of a point-like light source forms no basis for making an obviousness rejection [brief, pages 5-11].

The examiner responds that appellants' own specification points out that a point-like light source is not critical to the invention. The examiner also responds that there is no reason for not using a laser in the form of a point-like light source for the laser in Yamamoto. The examiner asserts that it would have been obvious to the artisan to use a point-like light source to efficiently concentrate light as generally recognized in the art. The examiner responds that Hara does not teach away from the claimed invention because it is only used to show that a laser can be a point-like light source [answer, pages 12-15].

Appellants respond that the person skilled in the art looking to solve the problem of overillumination would not look to Hara for a solution because Hara overilluminates the object, and is therefore, not pertinent to the problem to be solved [reply brief, pages 2-3].

We will sustain the examiner's rejection of independent claim 17. We agree with the examiner that the artisan would have found it obvious to use a point-like light source in the device of Yamamoto. Note that in the prior art scanning system taught by Yamamoto, the laser light source 1 emits a beam 2 which is

expanded by a beam expander 3 to a desired diameter [Figure 5]. The first portion of the beam expander 3 converges the laser beam to a point source before the beam is expanded by the second portion of the beam expander 3. Thus, it would have been clear to the artisan that it was well known in the art to convert a regular light source to a point-like light source in the course of expanding the diameter of a light source. The artisans in this art would have been sufficiently familiar with the types of optical devices taught by Yamamoto to convert any type of input light source to a suitable light source for any application. Thus, we agree in general with the examiner that the artisan would have found it obvious to use a point-like light source in Yamamoto with the optics of element 30 adjusted to achieve the same results as with the regular light source.

We also agree with the examiner that it would have been obvious to the artisan to use a point-like laser light source as taught by Hara in the device of Yamamoto. The fact that Hara has nothing to do with the field of the claimed invention is not controlling. Hara was cited only to demonstrate that point-like laser light sources were well known. Since it would have been obvious to use a point-like light source for reasons discussed above, and since point-like laser light sources were well known as taught by Hara, we find that it would have been obvious to the

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artisan to use a point-like light source for the laser of Yamamoto.

Despite the several rejections set forth above, appellants' only remaining argument is that the other cited references fail to overcome the deficiencies of the main combination discussed above. Since we have found no deficiencies in the main combination of references for reasons discussed above, and since appellants have made no other arguments for the separate patentability of the remaining claims on appeal, we also sustain the examiner's rejection of these remaining claims on appeal.

In summary, we have sustained each of the examiner's rejections of the claims on appeal. Therefore, the decision of the examiner rejecting claims 17, 22, 23, 25, 28, 29 and 32-39 is affirmed.

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AFFIRMED


KENNETH W. HAIRSTON
Administrative Patent Judge

Jerry Smith
JERRY SMITH
Administrative Patent Judge

BOARD OF PATENT
APPEALS AND
INTERFERENCES


STUART S. LEVY
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